

Name of the Programme: M.A. in Economics

Course Code: ECO-523

Title of the Course: Introduction to Game Theory

Number of Credits: 4

Effective from AY: 2022-23

<u>Prerequisites for the course:</u>	Students must have knowledge of economics and mathematics.	
<u>Objective:</u>	This course is intended to provide students with an Introduction to game theory and basic application in Economics	
<u>Content:</u>	Module 1 Introduction to Game Theory Nash Equilibrium: Theory, Strategic games, Best response functions, Dominated actions, Equilibrium in a single population: symmetric games and symmetric equilibria Module 2 Nash Equilibrium applications Illustrations; Cournot's model of oligopoly, Bertrand's model of oligopoly, Electoral competition, The War of Attrition, Auctions. Mixed Strategy Nash equilibrium, Dominated actions, Pure equilibria when randomization is allowed, Equilibrium in a single population, The ultimatum game and the holdup game, Stackelberg's model of duopoly Module 3 Extensive Games with Perfect Information Theory, Extensive games with perfect information, Strategies and outcomes, Nash equilibrium, Subgame perfect equilibrium, Finding subgame perfect equilibria of finite horizon games, backward induction Module 4 Extensive Games with Perfect Information: Extensions and Discussion, Allowing for simultaneous moves, Coalitional Games and the Core, Coalitional games, The core	15 Hours 15 Hours 15 Hours 15 Hours

<u>Pedagogy:</u>	● Chalk and talk aided by ICT enabled lectures ● PC lab exercises ● Assignments and presentations ● Group activity ● MOOC (or similar) Component	
<u>References/Readings</u>	Core Reading C1. Martine, Osborne . (2009), An Introduction to Game Theory, Oxford University Press, Oxford. Additional References A1. Dixit, Avinash.;Skeath, Susan and Reliey, David H. (2015), Games of Strategy, W. W. Norton & Company, New York. A2. Rasmusen, E. (2007), Games and Information, Blackwell, Maiden, M.A.	
<u>Learning Outcomes</u>	The students will be able to explain strategic behaviour of agents in a world of perfect information.	